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Endometrial histopathological changes associated with dysfunctional uterine bleeding

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ABSTRACT

Dysfunctional uterine bleeding occurs in the absence of any pelvic pathology with disruption of normal patterns of endometrial stimulation. It is diagnosed by exclusion and is found more commonly in women around perimenopausal age and increases till menopause. Diagnosis is by histopathologic examination. Methods: Endometrial biopsies of 100 women in the reproductive and perimenopausal age were examined. Dysfunctional uterine bleeding was found to be more in the reproductive age group followed by perimenopausal ages. Menorrhagia (43%) and polymenorrhia (22%) were the most common types of bleeding patterns. Histopathological pattern of endometrium mostly shows proliferative changes (60%). Diagnosis of dysfunctional uterine bleeding is necessary to identify changes early so as to prevent complications.

Key words: Dysfunctional uterine bleeding, histopathologic examination, menorrhagia

Introduction

Dysfunctional uterine bleeding is an abnormal uterine bleeding that occurs in the absence of any pelvic pathology, medical disorder or pregnancy [1]. There is disruption of the normal hormonal pattern of endometrial stimulation with unpredictable bleeding that maybe excessive or light and is often prolonged. If improperly managed, it may lead to endometrial cancer. The usual premenstrual symptoms accompanying the ovulatory cycles are absent. It is diagnosed by exclusion in a women who presents with abnormal and unpredictable bleeding episodes [2,3]. It is usually found in women in the perimenopausal period and the incidence is found to increase till menopause [4]. The diagnosis of dysfunctional uterine bleeding is done my histopathologic examination particularly in perimenopasual and postmenopausal women [5]. DUB can present with any type of endometrium from normal to atrophic [6]. The present study was undertaken to see the association of dysfunctional uterine bleeding with age from reproductive to perimenopausal and menopausal age groups and to see the pattern of abnormal bleeding in such women.

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Material and Methods

The study was done in the Department of Pathology, Osmania Medical College, Hyderabad. A total of 100 endometrial biopsies were sent for histopathological examination and studied. All participating subjects had clinical history of DUB.All cases were in the reproductive period of life and peri menopausal cases were included. Conditions like polyp, myoma, adenomyosis, malignancy and infections which also cause abnormal uterine bleeding were excluded from the study. All the cases were classified into age groups and analysed. Subjects were divided into Group 1 to Group 4 as per age, endometrial changes and types of bleeding in DUB.

Technique of endometrial biopsy was by Dilatation and curettage, vabra aspirator, endometroid brush technique.

Vabra aspirator: This is a suction curette device with 3-4 cm diameter steel cannula opening and the endometrial tissue is obtained by suction with the attached syringe.

Pipplle biopsy: This is the most widely used device with a flexible plastic tube, 3.1 mm in diameter. A

vacuum is created by withdrawal of piston from cannula as the device is gently rotated and moved from side to side as it is withdrawn from the uterus and the endometrial tissue is sucked.

Fixation of biopsy material: This is done using Buffered Formalin solution and Bouin's solution. Fixation is done to make the cells withstand subsequent treatment with reagents with minimum loss of significant distortion or decomposition. Tissue processing and staining: Paraffin processing: For microscopic examination of tissues, 2-4 micron sections are taken for which the tissue is embedded in paraffin wax that permits thin sections to be cut using a microtome. Staining is done using Haematoxylin and Eosin stain.

Results

Tabulated and expressed as percentages.

Table 1: DUB according to age groups

Age groups and Age (Yrs)	No of cases with DUB	Percentage (%)
Group I – 11 - 20	8	**8**
Group II – 21- 30	44	**44**
Group III – 31 - 40	25	**25**
Group IV > 41	**23**	**23**

DUB was found to be more in the reproductive age group with maximum number of cases falling in group II, early second decade of life (30%). There is also a substantial increase in the number of DUB cases in the perimenopausal period (23%)

Table 2: Various bleeding patterns in DUB

Bleeding Pattern	No of cases	Percentage (%)
Menorrhagia	43	**43**
Polymenorrhagia	5	**5**
Polymenorrhoea	22	**22**
Metrorrhagia	11	**11**
Continuous Bleeding	**19**	**19**

Most common type of bleeding in DUB was found to be menorrhagia followed by polymenorrhea.

Table 3: Types of bleeding in relation to endometrial change

Endometrial change	Menorrhagia	Metrorrhagia	Poly menorrhagia	Polymenorrhea	Continuous bleeding
Proliferative phase	27	6	5	12	**10**
Secretory Phase	9	3	-	1	**4**
Endometrial hyperplasia	3	-	1	4	**5**
Irregular ripening	-	1		2	
Irregular sheeding	3	1		1	**1**
Pill Endometrium	**1**	**-**			

The proliferative phase was seen to present with a variety of bleeding patterns with majority of cases presenting with menorrhagia (27%) followed by polymenorrhia.

Table 4: Histopathological pattern in DUB

Endometrial changes	Result N (%)
Proliferative phase	60 (60%)
Secretory phase	17 (17%)
Endometrial hyperplasia	13 (13%)
Irregular ripening	3 (3%)
Irregular shedding	6 (6%)
Pill Endometrium	1 (1%)
Atrophic	
Total	100 (100%)

The most commonly occurring change was found to be proliferative phase (60%).

Table 5: Endometrial changes in DUB in relation to age

Age groups (yrs)	Proliferative phase	Secretory phase	Endometrial hyperplasia	Irregular ripening	Irregular shedding	Pill endometrium
11-20	6	3				
21-30	26	4	5	2	4	
31-40	11	8	3			
> 41	17	2	1	3	1	1
Total	60	17	13	3	6	1

Discussion

Most women with dysfunctional uterine bleeding present without any obvious uterine pathology [7]. In the present study DUB is common both during the reproductive period and thereafter in the perimenopausal and postmenopausal periods which is in accordance with previous studies [8].It may be ovulatory with excessive bleeding and regular menstrual cycles. Anovulatory type of bleeding is irregular and usually seen in early years around puberty or in third decade of life. The cause of DUB is strongly related to patients age, types of menstrual cycles, ovulatory or anovulatory and menopausal status [9,10]. Menorrhagia is the most common type of bleeding followed by polymenorrhia in our study which is in accordance with previous studies [11,12 ,13,14]. Most cases were seen to be in the proliferative phase which is similar to observations of previous studies [13]. Several studies have reported that endometrial hyperplasia is more common observation but our study shows lower percentage of subjects with this condition [13]. It is necessary to look for endometrial hyperplasia as it could later lead to endometrial cancer. The limitations of the present study are its small sample size which if larger would give a broader picture of the problem in the community. Evaluation of women with dysfunctional uterine bleeding is necessary especially around the perimenopausal age group to detect any abnormal changes and intervene early. Histopathological examination and cervical smears remain the standard procedures for diagnosis.

Reference

1. Khrouf M, Terras K. Diagnosis and management of formerly called "dysfunctional uterine bleeding" according to PALM-COEIN FIGO classification and the new guidelines. *J Obstet Gynaecol India.* 2014 ; 64 (6):388-93.
2. Khan S, Hammed S, Umber A. Histopathological pattern of endometrium on diagnostic D&C in patients with abnormal uterine bleeding. Annals KEMU. 2011;2:166–70
3. Saraswathi D, Thanka J, Shalinee R, Aarthi R, Jaya V, Kumar PV. Study of endometrial pathology in abnormal uterine bleeding. Obstet Gynecol India. 2011;61:424–30

4. George A. Vilos, Guylain Lefebvre, Gillin R. Graves, Halifax, N.S. Guidelines for the management of abnormal Uterine Bleeding SIOGC clinical practice guidelines; No:`106: Aug 2001.
5. Livingstone M, Fraser IS. Mechanism of abnormal uterine bleeding. Hum Reprod Update. 2002;8:60–7
6. Sutherland AM. Functional uterine haemorrhage: a critical review of the literature since 1938. Glasgow Med J. 1949;30:1–28
7. Coulter A, Bradlow J, Agass M. Outcomes of referral to gynaecology outpatient clinics for menstrual problems:an audit of general practice records. Br J Obst Gynecol. 2003;110:938–47
8. Khan R, Sherwani RK, Rana S, Hakim S, S Jairajpuri Z. Clinco-Pathological Patterns in Women with Dysfunctional Uterine Bleeding. *Iranian Journal of Pathology*. 2016;11(1):20-26.
9. Dhlenbach-Hellweg G. Histopathology of endometeium. 4th ed. . New York: Springer-Verlag; 1993.
10. March CM. Bleeding treatment and problems. Clin Obstet Gynecol. 1998;41:928–39
11. Bourdez P, Bongers MY, Mol BW. Treatment of DUB: Patient preference for endometrial ablation, a levonorgertrel releasing intrauterine system or hysteroscopy. Fertil Steril. 2004;82:160–6.
12. Towbin NA, Gviazda IM, March CM. Office hysteroscopy versus transvaginal ultrasonogtaphy in the evaluation of patients with excessive uterine bleeding. Am J Obstet Gynaecol. 1996;174:1678–82.
13. Muzzafar M, Akhtar KAK, Yasmin S, Rehman M, Iqbal W, Khan MA. Menstrual Irregularities with excessive blood loss: a clinico-pathological correlation. J Pak Med Assoc. 2005;55:486–9.
14. Khan R, Sherwani RK, Rana S, Hakim S, S Jairajpuri Z. Clinco-Pathological Patterns in Women with Dysfunctional Uterine Bleeding. *Iranian Journal of Pathology*. 2016;11(1):20-26.

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